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Updating Primary Care Providers' Management of Persistent Pain

Guenever Parsley

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Abstract

Persistent pain impacts the quality of life of millions of adults and is fiscally draining on the American healthcare system. National recognition of the problem is shifting persistent pain management recommendations. Historically, opioids have played a large role in the management of acute and chronic pain, but the current opioid epidemic in the United States creates an urgent need for clinicians to alter their practice to include new recommendations. Additionally, Medicare has approved changes in reimbursement, to enforce new pain management recommendations, that will make it increasingly difficult for patients with ongoing non-cancer pain to receive continuing opioid medication therapy. However, many clinicians feel unprepared to adequately manage patients with persistent pain. A multidisciplinary primary care clinic that had experienced an influx of opioid dependent chronic pain patients initiated a practice change project to increase provider adherence to current pain management guidelines. Clinicians were offered an onsite workshop. Following the educational interventions, the assessed prescription and referral practices were found to have: 1) reduced opioid prescribing, including in combination with benzodiazepines; 2) increased the number of referrals for interdisciplinary care; and 3) greater use of other classifications of drugs to manage patients' pain. The providers' change in practice reflected better understanding of the multifaceted aspects of persistent pain.

Background

Approximately 100 million adults suffer from persistent pain, which costs an estimated \$560 to 635 billion a year in healthcare related expenses¹. Persistent pain, also known as chronic pain, is defined as a regional or widespread sensation of non-cancerous pain that lasts for at least three months and is longer than the expected normal healing time for tissue^{1,3}. Persistent pain impacts all aspects of an individual's quality of life, including the ability to complete basic activities of daily life, work, socialization, and relaxation^{1,2}.

Several papers⁶⁻¹⁴ have found that providers are unprepared to satisfactorily manage a patients' persistent pain. Providers have difficulty in adequately assessing and treating the pain due to the complex nature of pain¹⁵. This can lead to less than optimal pain control, frustration for the provider, and patient despair¹⁵. Historically, opioids have been employed as the principal treatment modality for patients with persistent pain¹⁶. However, in a recent statewide survey of Washington healthcare providers, only 60 percent of providers rated themselves as competent at prescribing opioids despite opioids being used as the primary treatment for persistent pain⁶. Healthcare providers must be updated on the current recommendations to address unanticipated endurance of symptoms and their manifestations impacted by the mind, body, and social environment of the patient^{1,4}. Current recommendations focus on developing a comprehensive treatment plan that includes using multiple classes of medications and a variety of health professionals to help patients manage their continued pain^{1,4}.

Organizational Context

A small, multidisciplinary primary care clinic started the critical process to improve provider prescribing practices to comply with current guidelines and improve persistent pain management within the organization. Based on the recommendations of the Institute for Healthcare Improvement¹⁷, a microsystem assessment was conducted to reveal the organization's strengths and the areas that could be improved to support a practice change. The microsystem

assessment revealed that the clinic was designated as a Tier 3 Patient-Centered Primary Care Home and considered a Coordinated-Care Organization with both primary and mental health care^{18,19}. It served members of the local lesbian, gay, bisexual, and transgender community, elderly individuals (including those home-bound), and foster children in Northeast Portland.

The diversity of healthcare providers (three primary care providers and two behavioral health providers) allowed in-house collaboration which helped to provide a comprehensive approach to meeting the various needs of the clinic's patients. Providers collaborated frequently on patient cases. The clinic's integrative health focus encouraged providers to use allied health, which was already being used on a limited basis to address patients' persistent pain. Most insurance plans were accepted, including Oregon Health Plan, Oregon's Medicaid program, which is managed by CareOregon. The clinic manager used a flat organizational structure to act as the point-person in initiating and moderating the development of goals, policies, and procedures. The clinic's culture embraced continual practice improvement to maintain high quality care delivery. Based on the clinic's strengths, a practice improvement project directed at persistent pain should offer consideration for the clinic's integrative approach to patient care and emphasize collaboration between in-house providers in managing each patient's unique experience of persistent pain.

Several areas were identified that might be challenges to initiating a practice change project. The clinic had experienced a recent influx of patients, which increased workloads for the providers. In addition, there were no formal meetings held with the providers to update them on current issues and allow for discussions of difficult cases. The providers' focus was split between multiple practice improvement initiatives, which reduced the likelihood that the projects could be sustained over a long period of time. Finally, any practice improvement project implemented would need to receive sustained support by the clinic manager; otherwise, providers would not receive the necessary support to engage in activities that would promote

sustained change within practice. Consequently, a project to change the management of persistent pain would need to encourage informal communication between providers and not increase workload. Champions for the practice change would need to be identified early on for success.

Personal Context

The Centers for Disease Control and Prevention (CDC) has recognized that the “opioid epidemic” is overwhelming the United States and published recommendations for the treatment of persistent pain. Primarily the CDC recommends limiting opioid prescribing, increasing the use of other classifications of medications to address different aspects of the pain pathway and to increase the use of allied health referrals². Health Share of Oregon directed its subsidiary Oregon Medicaid management company, CareOregon, to explore the causes of heavy opioid and benzodiazepine prescription practices²⁰ and to offer both providers and clinics incentives to alter such practices (A. Huff, oral communication, September 2016). CareOregon investigated which clinics had at least 10 patients who were prescribed opioid medications greater than a 90-milligram morphine equivalency with co-prescribed benzodiazepines, which included this small primary care clinic (A. Huff). All identified clinics were approached to participate in a program to reduce risky prescribing practices and promote better patient outcomes. The clinics would be reimbursed for three representatives from each clinic to attend four educational sessions on persistent pain and return to act as champions for change within each organization. If a clinic’s CareOregon insured patients had less opioid and benzodiazepine medication prescriptions, then the clinic would also receive a financial bonus at the end of the project, June 30, 2017 (A. Huff).

Representatives from each of the clinics attended a series of educational sessions regarding the pathophysiology of persistent pain, evidence-based recommended prescribing, inter-professional referrals for pain management, behavioral health management to improve quality of life, and population-based management. The representatives subsequently took the

information back to their respective clinics and spearheaded changes in practices. CareOregon planned to assess for changes in providers' practices over a seven-month period (A. Huff, oral communication, September 2016). Practice improvement measurements would focus on increased interdisciplinary referrals and decreased opioid prescriptions.

The clinic manager prioritized this practice improvement project over other initiatives due to a recent influx of opioid dependent patients and Medicaid's new limitations on reimbursement for opioid therapy. Two providers represented the clinic in the CareOregon program; a Doctor of Nursing Practice prepared family nurse practitioner (DNP-FNP) and a Master of Science prepared psychiatric mental health nurse practitioner (PMHNP). The DNP-FNP had recent education on implementation science and felt that she could act as a champion for the project with the other primary care providers (PCP) within the clinic. The PMHNP had been working with many of the clinic's persistent pain patients and wanted to further explore medication use, especially cannabinoids, and the potential use of allied health professionals in addressing the different mechanisms of pain. A DNP-FNP student volunteered to attend the workshop series, as the third representative, to develop and implement an education program based upon CareOregon's evidence-based recommendations.

Problem

The clinic experienced a recent influx of opioid dependent and co-prescribed with benzodiazepines persistent pain patients after a nearby clinic closed. This influx increased the number of clinic patients with persistent pain to become about 10% of the total visits and challenged the clinic providers. The providers felt they had insufficient knowledge to care for these patients and wanted to improve their management practices for persistent pain. Providers had previously relied on opioid therapy, stress-reduction education, and referrals (physical therapy, acupuncture, and in-house behavioral health) to manage patients' needs. They expressed confidence in adequately meeting the needs of the patients despite their lack of

confidence in their knowledge of developing appropriate treatment plans. Additionally, Oregon Health Plan (Medicaid) had recently announced that reimbursement for opioid treatments for chronic pain would be significantly limited starting January 2018²¹. Combined, the influx of persistent pain patients and the cuts in reimbursement created the necessity for the clinic providers to be updated on management strategies.

It is well recognized that changing established behaviors can be difficult. The providers expressed conflict between a sense of need to alter their management practices and their concern of not meeting patient expectations associated with established treatment plans. This struggle could cause providers to develop ambivalence or even resistance to shifting practice. Therefore, it was imperative to recognize and address the stages of transition based on Bridges and Bridges²² theory of navigating the psychological challenges associated with change.

The intent of this practice change was to alter providers' behaviors in managing persistent pain. The clinic's providers were offered an educational workshop to build upon their knowledge on the pathophysiology of persistent pain, update on current medication recommendations, and discuss the use of allied health professionals to augment their treatment plans. Based on prior research²⁴, the project's aim was for the added knowledge to improve provider confidence in assisting patients to manage their persistent pain, expand non-opioid prescription practices to address other points of the pain pathway, and diversify referral types.

Solution

Literature Review

A literature search was conducted to answer the question: In a primary care clinic, does an in-service workshop alter PCP management practices to align with evidence-based recommendations in treating persistent pain? The literature revealed two major themes: (1) how to educate providers effectively, and (2) what to educate them about persistent pain management.

An instructional program that includes both formal and informal learning opportunities, such as a workshop with guiding materials and supplemental articles, had a greater impact on provider education than just one method of training²³⁻²⁵. Providers responded better to no-blame education that was directed at improving patients' outcomes^{23,26}. Clinicians prefer educational sessions that occur in a single-day workshop format, with small multidisciplinary groups^{24,25,27}. Providers prefer to collaborate on complex patient cases during the sessions²⁸. Confidence for future provider-patient discussions improved when providers reviewed patient education materials during the workshop²⁵. Both PCPs and experts recommend covered topics should include: pain management, especially with comorbid conditions; symptom control, including referral recommendations; monitoring opioids and assessing patient risk factors; and addressing psychosocial coping strategies^{27,29}.

Utilizing the above methods, provider behaviors and patient outcomes improved. Providers more frequently assessed patients' quality of life, increased the number of referrals offered patients, noted greater confidence with opioid and non-opioid prescribing, and frequently prevented the development of persistent pain²⁴. Patients were more involved in the plan of care development, had a higher rate of return to work, and spent less time during follow-up visits discussing pain management²⁴. The improved outcomes led to overall increased revenue for clinics²⁴.

Barnhill²³ argues advanced practice registered nurses learn best through active learning. Providers successfully incorporate their newly-acquired knowledge when it is built on previous knowledge²³. It was assumed that the active education preference was applicable also to the naturopath and the behavioral health specialist. The Learner-Centered Teaching model³⁰ was used to develop the persistent pain management education for the clinic.

The Knowledge to Action (KTA) theory guided implementation of this project. KTA focuses on how to alter providers' behaviors to use updated knowledge³¹. KTA has seven phases³¹.

- 1) Problem identification – a literature search outlined that providers are unprepared to adequately address persistent pain²³.
- 2) Local context knowledge adaptation – the clinic prioritized on the improvement of persistent pain management.
- 3) Assess knowledge utilization barriers and facilitators – primary barriers were that this was a small clinic with a heavy workload for providers. The facilitators were two of the providers were actively involved and the clinic's commitment to CareOregon's initiative.
- 4) Develop an intervention to promote knowledge use – an educational workshop focused on utilizing holistic health modalities to promote provider buy-in; two supplemental articles were distributed to address knowledge gaps; and the surveys were used to reinforce key recommendations.
- 5) Monitor knowledge use – an individual assessment was conducted; the surveys focused on providers' integration of the recommendations into practice.
- 6) Evaluate outcomes of knowledge use – both individual and group assessments were conducted to assess if the information was useful and what areas could have been improved.
- 7) Sustain knowledge use – the group discussed how to sustain implementation of CareOregon's persistent pain initiative beyond this project's end. The data analysis from this project and recommendations for sustainability were presented to the clinic administrator.

Project Development

Plan development. Based on the literature review, the original plan was developed to be a two-hour workshop, presented to the providers in the evening. The workshop was to include: a synopsis of CareOregon's information and recommendations; a review of education materials and patient behavioral modification tools; a group discussion of current clinic cases and challenges; consent to participate in the doctorate project; and complete a self-report survey. However, clinic manager recommended that the workshop be modified to limit the impact on the providers' workload. The education was condensed into a single, one-hour session, which excluded the patient cases discussion. To gain greater provider buy-in, the clinic champion felt that the project would benefit from the participation and insights of the behavioral health specialist who had received in-house referrals for the influx of persistent pain patients.

The clinic manager opted to not hold monthly provider meetings, designed to allow further discussion regarding challenging patient cases, in favor of limiting the impact on providers' time. Providers were encouraged to continue to have impromptu discussions between patient visits. Therefore, the plan of monthly article distribution, to address participant-identified knowledge gaps, was modified. Two supplemental articles were distributed six weeks into the project and the providers reviewed them independently. The practice improvement project provided the foundational knowledge to promote change and occurred during the first twelve weeks of CareOregon's seven-month program. This incentives and continued monitoring from CareOregon would sustain the project.

Evaluation plan. CareOregon would track external data on patients including charges for services rendered by professionals outside the clinic, overall healthcare costs, and patient outcomes. The external data would not be available until the completion of the seven-month program and, therefore, would not be included in the outcome measures for this project.

It was not possible to internally collect the intended objective data. The clinic's electronic health record was not sophisticated enough to allow easy collation of the number of

patients treated for persistent pain, pain management methods providers utilized, and billing codes applied to each visit. Therefore, subjective data was collected instead. A ten-question self-report survey was developed (see Appendix A). The survey was completed three times: immediately following the workshop, six weeks later, and at twelve weeks. At the final meeting, providers evaluated the overall practice change initiative and offer ideas for the development of similar projects in the future.

Implementation

The champion and clinic manager assumed the responsibility to invite all providers to participate in the practice improvement project. Providers were given the information materials and articles regardless of agreeing to participate; one provider opted to not join in the project. The workshop and final meeting took place during the clinic's lunch hour. All clinic staff were invited to stay regardless of participation in the project and lunch was provided for everyone. However, only the participants stayed for the in-service and the final group discussion. The mid-point survey was completed on an individual basis and then submitted anonymously. Each provider was assigned a number for data comparison purposes. Invitation fliers were posted throughout the clinic, inviting participants to the group discussion. Due to scheduling conflicts, the clinic rescheduled the final group discussion, making providers less available to participate with the new date.

Results

Process and outcome measures were collected via the survey (see Appendix A). Process measures evaluated the effectiveness of the education and identified any knowledge gaps immediately after the workshop, and at six and twelve weeks, respectively. Personal reflection in changes in practice and the group's perspective of the impact of the project on system issues associated with changing practice assessed outcome measures at twelve weeks. In each survey, one provider did not participate due to scheduling conflicts.

Process Measures. The amount of time most providers spent on pain management showed the expected initial increases and then returned to baseline associated with updating patients' knowledge and plan of care. Figure 1 (see Appendix B) shows that providers noted the information in the workshop met their learning needs; however, at six and twelve weeks there was a minimal decline. Providers' initial level of confidence to manage persistent pain was 3 out of 5; although, this number increased to 4 with the subsequent surveys, (see Figure 1). Anecdotally, providers had forgotten that the reference tools were available until they saw the midpoint survey, which prompted them to review and use the materials.

Outcome Measures. Providers noted a change in management practices over the course of the project. They had incorporated greater diversity of drug classes in their prescribing (see Figure 2, Appendix C); and referral practices expanded to greater inclusion of integrative health providers (see Figure 3, Appendix D). One provider did not attend the workshop and found it difficult to review the materials independently, which made it difficult to implement the recommendations. Recent successes in treating patients with persistent pain helped motivate providers to continue to implement the new information.

Discussion

Provider confidence gains were noted after the initial workshop with the no-blame learning environment focused on updating knowledge. Further gains occurred with the distribution of articles to meet identified knowledge gaps; which supported previous studies' results²³⁻²⁵. Providers reported that they altered their prescribing and referral practices to address the multifaceted aspects of pain. Their change in behavior was most likely related to the information provided in the initial workshop, as recommended by prior researchers^{27,29}. The providers were confident in their continued implementation of the recommended guidelines, though they were concerned that their altered behaviors would lose momentum with future clinic initiatives.

Unsolved Questions and Lessons Learned from the Field

Based on self-report, providers altered their behaviors to be more consistent with current recommendations. Providers noted they had increased their confidence with the management of persistent pain. The workshop was followed by relevant articles that addressed knowledge gaps and engaged providers further in the topic. Short-term sustainability was evident, especially since providers were encouraged by recent successes. This project's outcomes supported prior research on what topics influence provider behaviors^{27,29} and how education should be presented to providers²³⁻²⁸.

Upon reflection, similar projects could have more success with improvements to key areas.

- 1) To help providers retain the information better, consider one of three options: a) develop a 2-hour workshop to allow for a slower pace and application discussions; b) in settings with similar time constraints, reduce the content covered to decrease providers being overwhelmed with too much information; or c) extend the workshop to multiple sessions, despite that the literature^{24,25,27} has stated that a single session is best.
- 2) Gain administration buy-in to not split resources between multiple quality improvement projects, which can diminish clinicians' sense of urgency and focus on the project.
- 3) Have the administration address workload issues through intentionally building in release time to attend the information session(s).
- 4) Initiate a monthly journal club, in which the providers would be able to review relevant literature and clinic case studies to collaborate on how to improve patient care.

- 5) Expand the participants to include the medical assistants, who help the providers setup referrals; without their inclusion the adoption of referral recommendations may be negatively impacted.
- 6) Develop patient educational materials that appeal to all patients and advance patients' knowledge of pain and how to improve their quality of life to increase utility beyond new patients.
- 7) Establish a formal time to highlight successes and collaborate on challenging patient cases to support the providers through the psychological stressors associated with changing management practices.
- 8) Create formal meet-and-greet opportunities between clinics and providers of specialties or complementary therapies to reduce provider anxiety associated with referrals.
- 9) Subjective data should include a pretest and posttest design utilizing patient satisfaction rates, in which patients would be asked to rate their impression of the quality of care regarding persistent pain associated with provider prescribing and referral practices.
- 10) Collect the objective data outlined in the evaluation section to reduce participant bias.
- 11) Each provider should create a goal outlining his or her intended use of the reference materials and implementation of the recommendations, and then follow-up to see if they met their objective to improve accountability.

The intent of this project was that the information provided in the workshop would allow the clinic's providers to gain knowledge and tools that could support their immediate concerns. Hopefully, this project will act as a catalyst to initiate review and change in the clinic's policies surrounding opioid prescribing and persistent pain management. Additionally, the clinic will

have gained awareness for the need for collaborative case management staff meetings. Long-term sustainability will be realized if these occur.

Conclusion

Persistent pain management continues to be a difficult aspect in patient care for PCPs. The development of an educational project to update providers on current recommendations for medications, referrals, and behavioral health is a time critical task due to the current opioid epidemic as well as the changes to Oregon's Medicaid coverage for persistent pain. This project potentially acts as a map to guide other clinics through this process. The lessons learned may portend how to use implementation science successfully in the practice environment. Overall, this project demonstrated short-term successes due to both internal and external factors, and it is anticipated that patient outcomes improved due to changes in provider behavior.

References

1. Institute of Medicine. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. Washington, DC: The National Academies Press; 2011.
2. Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain – United States, 2016. *MMWR Recomm Rep* 2016;65(No. RR-1):1-49. doi: <http://dx.doi.org/10.15585/mmwr.rr6501e1>.
3. Hardt J, Jacobsen C, Goldberg J, Nickel R, Buchwald D. Prevalence of chronic pain in a representative sample in the United States. *Pain Medicine*. 2008;9(7):803-812.
4. Stern N. *Rethinking pain toolkit training*. 2016. Portland, OR: Providence Health & Services.
5. Solotaroff R. *Understanding and assessing pain, integrating pharmacologic treatment*. Portland, OR: Old Town Clinic, Central City Concern.
6. Barth K, Guille C, McCauley J, Brady K. Targeting practitioners: A review of guidelines, training, and policy in pain management. *Drug & Alcohol Dependence* [serial online]. April 2, 2017;173:S22-S30. Available from: CINAHL Plus with Full Text, Ipswich, MA. Accessed October 22, 2017.
7. Davis C, Carr D. Physician continuing education to reduce opioid misuse, abuse, and overdose: Many opportunities, few requirements. *Drug & Alcohol Dependence* [serial online]. June 2016;163:100-107. Available from: CINAHL Plus with Full Text, Ipswich, MA. Accessed October 22, 2017.
8. Howell D, Kaplan L. Statewide survey of healthcare professionals: management of patients with chronic noncancer pain. *Journal of Addictions Nursing* [serial online]. April 2015;26(2):86-92.
9. Fox A, Kunins H, Starrels J. Which skills are associated with residents' sense of preparedness to manage chronic pain?. *Journal Of Opioid Management* [serial online]. September

- 2012;8(5):328-336. Available from: MEDLINE, Ipswich, MA. Accessed October 22, 2017.
10. Hoang H, Sabia M, Torjman M, Goldberg M. The importance of medical education in the changing field of pain medicine. *Pain Management* [serial online]. 2014;4(6):437-443. Available from: MEDLINE, Ipswich, MA. Accessed October 22, 2017.
11. Katzman J, Commerci G, Geppert C, et al. Rules and values: a coordinated regulatory and educational approach to the public health crises of chronic pain and addiction. *American Journal Of Public Health* [serial online]. August 2014;104(8):1356-1362. Available from: MEDLINE, Ipswich, MA. Accessed October 22, 2017.
12. Slater H, Davies S, Parsons R, Quintner J, Schug S. A policy-into-practice intervention to increase the uptake of evidence-based management of low back pain in primary care: a prospective cohort study. *Plos One* [serial online]. 2012;7(5):e38037. Available from: MEDLINE, Ipswich, MA. Accessed October 22, 2017.
13. Turk, DC, Brody MC, Okifuji EA. Physicians' attitudes and practices regarding the long-term prescribing of opioids for non-cancer pain. *Pain*. 1995;59(2):201-208. doi:10.1016/0304-3959(94)90072-8.
14. Upshur C, Luckmann R, Savageau J. Primary care provider concerns about management of chronic pain in community clinic populations. *Journal of General Internal Medicine* [serial online]. June 2006;21(6):652-655.
15. Matthias MS, Krebs EE, Bergman AA, Coffing JM, Bair MJ. Communicating about opioids for chronic pain: a qualitative study of patient attributions and the influence of the patient-physician relationship. *European Journal of Pain*. 2014;18(6):835-843.
16. Meldrum ML. The Ongoing Opioid Prescription Epidemic: Historical Context. *American Journal of Public Health*. 2016;106(8):1365-1366. doi:10.2105/AJPH.2016.303297.

17. Clinical microsystems: Assessing, diagnosing and treating your outpatient primary care practice. *Institute for Healthcare Improvement*. 2005.
<https://clinicalmicrosystem.org/workbooks/>. Accessed July 7, 2016.
18. Oregon Health Authority. Patient-Centered Primary Care Home 2014 Recognition Criteria: Quick Reference Guide. 2015. <http://www.oregon.gov/oha/pcpch/Documents/TA-Guide.pdf>. Accessed July 7, 2016.
19. Oregon Health Policy Board. Coordinated care: the Oregon difference.
<http://www.oregon.gov/oha/OHPB/pages/health-reform/ccos.aspx>. Accessed July 7, 2016.
20. Health Share of Oregon. *About us*. 2015. <http://www.healthshareoregon.org/about-us>. Accessed July 7, 2016.
21. Health Evidence Review Committee. Reducing opioid overdose, misuse, and dependency: a guide for CCOs. 2015.
<http://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Documents/reducing-opioid-overdose-cco-guide.pdf>. Accessed October 15, 2016.
22. Bridges W, Bridges S. *Managing Transitions: Making the Most of Change*. 3rd ed. Philadelphia, P.A.: Perseus Books Group; 2009.
23. Barnhill WK. Alleviating suffering: A study of how rural APRN's acquire pain management education and training. *Alleviating Suffering*. 2014;1-186.
24. Chelimsky TC, Fischer RL, Levin JB, et al. The primary practice physician program for chronic pain (© 4PCP): outcomes of a primary physician-pain specialist collaboration for community-based training and support. *The Clinical Journal of Pain*. 2013;29(12):1036-1043. doi:10.1097/AJP.0b013e3182851584s.
25. Engers AJ, Wensing M, van Tulder MW, et al. Implementation of the Dutch low back pain guideline for general practitioners: A cluster randomized controlled trial. *Spine* 2005;30(6):559-600.

26. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *JAMA*. 1995;274(9):700-705.
27. Becker G, Momm F, Deibert P, et al. Planning training seminars in palliative care: a cross-sectional survey on the preferences of general practitioners and nurses in Austria. *BMC Medical Education*. 2010;10-43. doi: 10.1186/1472-6920-10-43.
28. Heise B, Himes D. The course council: an example of student-centered learning. *Journal of Nursing Education* 2010;49(6):343-345. doi:10.3928/01484834-20100115-04.
29. Chiauzzi E, Trudeau KJ, Zacharoff K, et al. Identifying primary care skills and competencies in opioid risk management. *The Journal of Continuing Education in the Health Professions*. 2011;31(4):231-240. doi:10.1002/chp.20135.
30. Weimer M. *Learner-Centered Teaching: Five Key Changes to Practice*. San Francisco, CA: Jossey-Bass. 2002.
31. Graham I, Logan J, Harrison M, et al. Lost in knowledge translation: time for a map? *Journal of Continuing Education in the Health Professions*. 2011;26(1):13-24.

Appendix A

1. On average how much time during each appointment do you spend with each of your patients in managing their persistent pain needs?

0-25% 25-50% 50-75% 75-100%

2. On average how much time during each week do you spend with patients managing their persistent pain needs?

0-25% 25-50% 50-75% 75-100%

3. What medications have you prescribed for your patients in the last month for persistent pain?

- | | |
|---------------------------------------|------------------------------------------|
| <input type="radio"/> SSRIs | <input type="radio"/> Opioids |
| <input type="radio"/> SNRIs | <input type="radio"/> Cannabinoids |
| <input type="radio"/> TCAs | <input type="radio"/> NMDA Antagonists |
| <input type="radio"/> Anticonvulsants | <input type="radio"/> Topical Analgesics |
| <input type="radio"/> Others _____ | |

4. How many times did you refer your patients with persistent pain to another type of provider?

0-25% 25-50% 50-75% 75-100%

5. What types of providers, if any, do you refer your patients with persistent pain to?

- | | |
|------------------------------------------------|----------------------------------------------------------|
| <input type="radio"/> Acupuncture | <input type="radio"/> Physical Medicine & Rehabilitation |
| <input type="radio"/> Alternative Pain Clinics | <input type="radio"/> Physical Therapy |
| <input type="radio"/> Chiropractic | <input type="radio"/> Registered Dietician |
| <input type="radio"/> Mental/Behavioral Health | <input type="radio"/> Others _____ |
| <input type="radio"/> Osteopathic Manipulation | |

6. How much of the time do you use the referral resource?

0-25% 25-50% 50-75% 75-100%

7. How much of the time do you use the medication prescribing resource?

0-25% 25-50% 50-75% 75-100%

8. How much of the time do you use the patient education pamphlet?

0-25% 25-50% 50-75% 75-100%

9. How confident do you feel in your ability to help patients manage their persistent pain?

0 1 2 3 4 5

Not confident

Very confident

10. Did the information provided meet your learning needs?

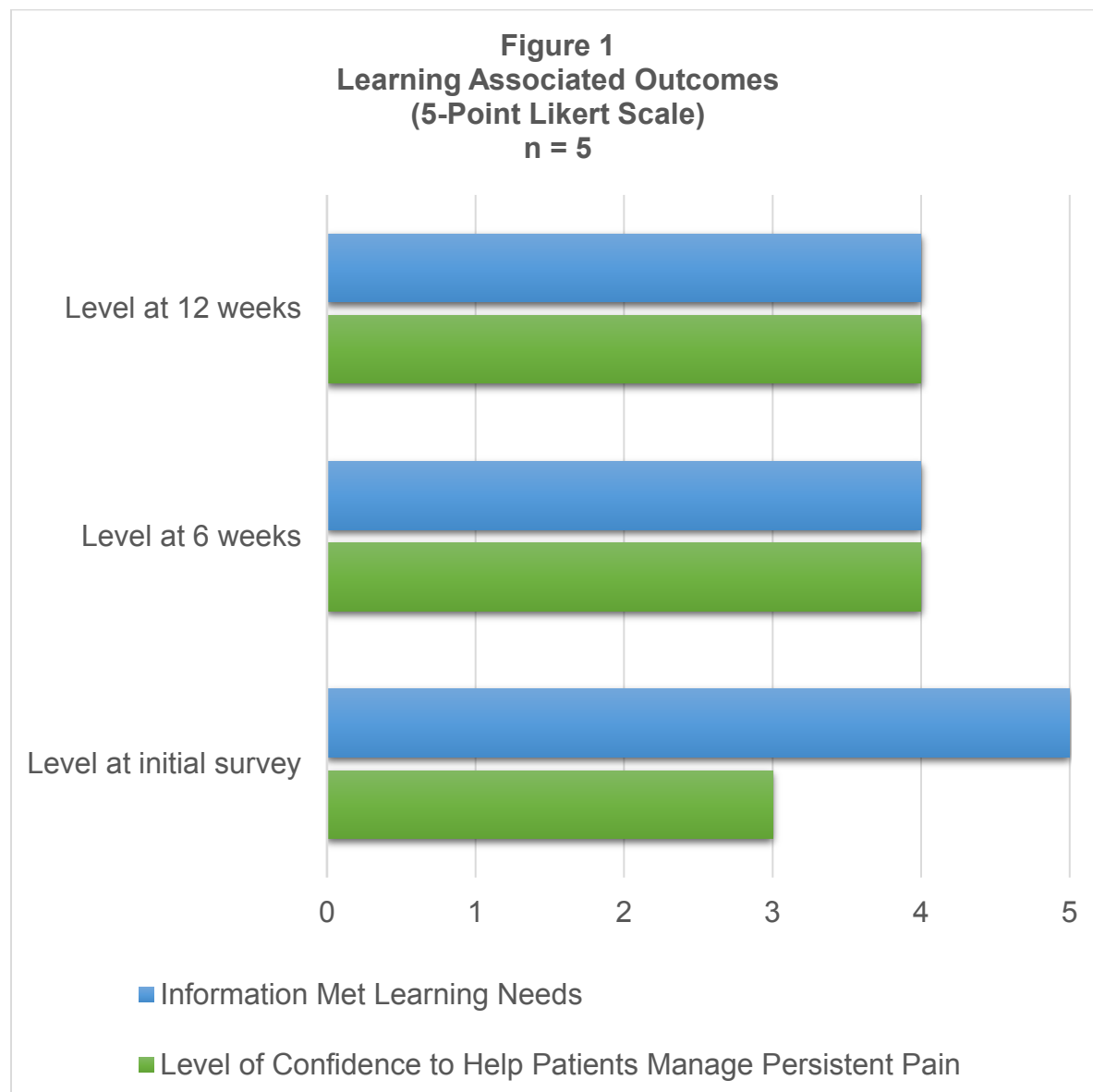
0 1 2 3 4 5

Not at all

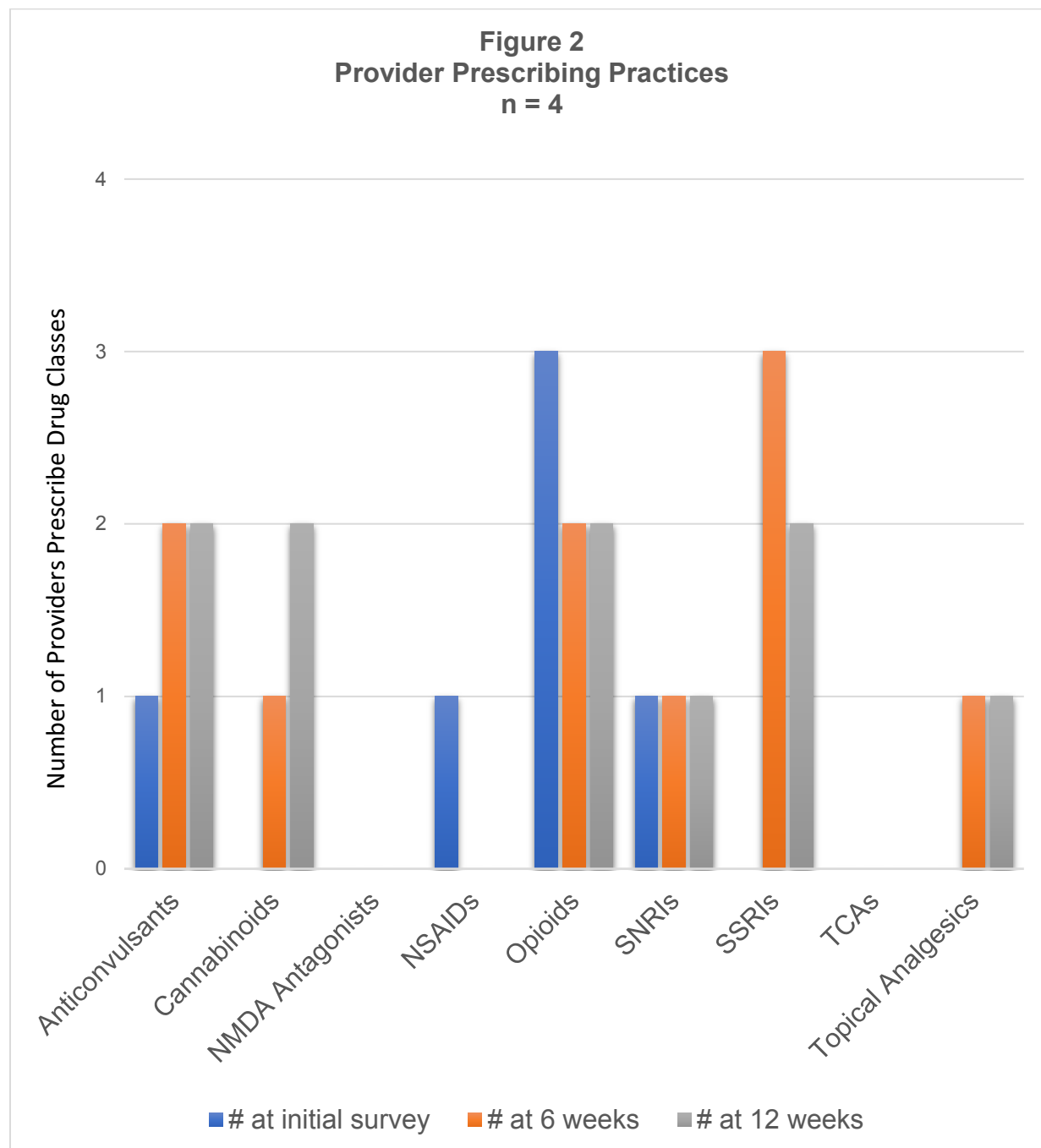
Definitely

11. What additional information would have been beneficial to you?

Appendix B



Appendix B



Appendix C

